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What the Research Says About Immersion

by **Tara Williams Fortune**

*Center for Advanced Research on Language Acquisition
University of Minnesota*

Over nearly half a century, research on language immersion education has heralded benefits such as academic achievement, language and literacy development in two or more languages, and cognitive skills. This research also exposes some of the challenges that accompany the immersion model, with its multilayered agenda of language, literacy and intercultural skills development during subject matter learning. This chapter outlines key findings for both advantages and challenges.

Benefits of Language Immersion

Academic and Educational

Without question, the issue investigated most often in research on language immersion education is students' ability to perform academically on standardized tests administered in English. This question emerges again and again in direct response to stakeholder concerns that development of a language other than English not jeopardize basic schooling goals, high levels of oral and written communication skills in English, and grade-appropriate academic achievement. The research response to this question is longstanding and consistent. English proficient immersion students are capable of achieving as well as, and in some cases better than, non-immersion peers on standardized measures of reading and math.^[i]

This finding applies to students from a range of socioeconomic and ethnic backgrounds,^[ii] as well as diverse cognitive and linguistic abilities.^[iii] Moreover, academic achievement on tests administered in English occurs regardless of the second language being learned. In other words, whether learning through alphabetic languages (Spanish, Hawaiian, French, etc.) or character-based languages (Mandarin, Japanese, Cantonese), English-proficient students will keep pace academically with peers in English-medium programs.^[iv]

It is important to acknowledge that early studies carried out in one-way total immersion programs, where English may not be introduced until grades 2–5, show evidence of a temporary lag in specific English language skills such as spelling, capitalization, punctuation, word knowledge, and word discrimination.^[v] That said, these studies also find that within a year or two after instruction in English language arts begins, the lag disappears. There were no long-term negative repercussions to English language or literacy development.

Does this same finding apply to students in two-way immersion (TWI) settings whose first language is other than English? In the past fifteen to twenty years, US researchers found that English learners' academic achievement also attained the programs' goals. By the upper elementary, or in some cases early secondary grades, English learners from different ethnicities, language backgrounds, socioeconomic levels, and developmental profiles perform at least as well as same background peers being schooled in English only.^[vi] Most English learners in TWI come from Latino families whose home language is Spanish. As an ethnic minority in the United States, Latinos are both the fastest-growing student population and the group with the highest rate of school failure.^[vii] Research in Spanish/English TWI contexts points to higher grade point averages and increased enrollment in post-secondary education for this student group, compared to Latino peers participating in other types of educational programs such as transitional bilingual education and various forms of English-medium education.

Although the vast majority of TWI research has been carried out in Spanish/English settings, Dr. Kathryn Lindholm-Leary^[viii] recently reported results from a study of two Chinese/English TWI programs. Students in grades 4–8 whose home language was Chinese tested at or above their grade level and the same as or well above peers with similar demographic profiles participating in non-TWI programs. Leary's findings align with those of other TWI programs.

Language and Literacy

The immersion approach first gained traction in North America because educators believed in its potential to move students further towards bilingualism and biliteracy. Immersion language programs took root in areas such as St. Lambert, Canada, and Miami, Florida, where educators felt that more than one language was necessary for children's future economic and social prosperity. Program designers wagered that making the second language the sole medium for teaching core subject content, instead of teaching the second language separately, would result in more students reaching higher levels of proficiency. These early immersion programs started by committing one-half or more of the school day for teachers and students to work only in the second language. Students were socialized to adopt the new language for all classroom communication and subject learning.

This approach to second-language and literacy development proved itself to be the most successful school-based language program model available. English-proficient immersion students typically achieve higher levels of minority (non-English) language proficiency when compared with students in other types of language programs.^[ix] Immersion students who begin the program as English speakers consistently develop native-like levels of comprehension, such as listening and reading skills, in their second language. They also display fluency and confidence when using it.^[x] Further, the more time spent learning through the non-English language, the higher the level of proficiency attained. To date, early total (one-way) and nearly total (90:10) two-way immersion programs demonstrate higher levels of minority language proficiency than partial or fifty-fifty programs.^[xi]

Initial concerns about the possible detriment to English language and literacy development were eventually laid to rest. English-proficient immersion students who achieved relatively high levels of second-language proficiency also acquired higher levels of English language skills and metalinguistic awareness—that is, the ability to think about how various parts of a language function. Researchers posit that metalinguistic skills positively impact learning to read in alphabetic languages, because it facilitates the development of critical literacy

sub-skills such as phonological awareness and knowledge of letter-sound correspondences for word decoding.^[xii] The important relationship between phonological awareness and successful reading abilities is clearly established. However, we now also have evidence that instructional time invested in developing important decoding sub-skills in an immersion student's second language can transfer and benefit decoding sub-skills in their first language.^[xiii]

Research about the relationship between character-based and English literacy sub-skills continues to grow. To date, evidence points to the transfer of phonological processing skills for children whose first language is Chinese and are learning to read in English as a second language.^[xiv] Studies also indicate a relationship between visual-orthographic skills in Chinese, the ability to visually distinguish basic orthographic patterns such as correct positioning of semantic radicals in compound characters, and English reading and spelling.^[xv] Much remains to be learned in these areas, however, when it comes to English-proficient children in Mandarin immersion programs who are acquiring literacy in Chinese and English.

In TWI programs, research illuminates what Lindholm-Leary and Dr. E. R. Howard referred to as a "native-speaker effect."^[xvi] In a nutshell, the "native-speaker effect" describes the tendency of native speakers of a language to outperform second language learners of the same language on standardized measures administered in the native speakers' language. For example, if Spanish proficient and Spanish learners are evaluated using standardized Spanish-medium tools, Spanish proficient outperform Spanish learners. Similar outcomes occurred when tests were given in English and Mandarin.^[xvii]

In general, research finds that immersion students whose first language is not English become more balanced bilinguals and develop higher levels of bilingualism and biliteracy when compared with English proficient students or home language peers participating in other educational programming. For example, Dr. Kim Potowski^[xviii] found that the oral and written language skills of English learners in TWI were only slightly behind those of recent Spanish-speaking arrivals and significantly better than their English-proficient peers. English learners' higher bilingual proficiency levels are also linked to higher levels of reading achievement in English, increased academic language proficiency, and successful schooling experiences in general.^[xix]

Cognitive Skill Development

There's a well-established positive relationship between basic thinking skills and being a fully proficient bilingual who maintains regular use of both languages. Fully proficient bilinguals outperform monolinguals in the areas of divergent thinking, pattern recognition, and problem solving.^[xx]

Bilingual children develop the ability to solve problems that contain conflicting or misleading cues at an earlier age, and they can decipher them more quickly than monolinguals. When so doing, they demonstrate an advantage with selective attention and greater executive or inhibitory control.^[xxi] Fully proficient bilingual children have also been found to exhibit enhanced sensitivity to verbal and non-verbal cues and to show greater attention to their listeners' needs relative to monolingual children.^[xxii] Further, bilingual students display greater facility in learning additional languages when compared with monolinguals.^[xxiii]

While much evidence supports the benefits associated with full and active bilingualism, the

relationship between language immersion education and long-term cognitive benefits is as yet less well-understood. Some research does indicate greater cognitive flexibility^[xxiv] and better nonverbal problem-solving abilities among English-proficient language immersion students.^[xxv]

Decades ago, Dr. Jim Cummins cautioned about the need for a certain threshold level of second language proficiency before cognitive skills might be positively impacted.^[xxvi] Accordingly, children who develop "partial bilingualism" in a second language may or may not experience cognitive benefits. While some studies report positive cognitive effects for partial or emerging bilinguals, Dr. Ellen Bialystok concurs that it is bilingual children with a more balanced and competent mastery of both languages who will predictably exhibit the positive cognitive consequences of bilingualism.^[xxvii]

Economic and Sociocultural

Increasingly, proficiency in a second language and intercultural competency skills open up employment possibilities. Many sectors require increasing involvement in the global economy, from international businesses and tourism to communications and the diplomatic corps. High-level, high-paying employment will demand competence in more than one language.^[xxviii] In the United States, world language abilities are increasingly important to national security, economic competitiveness, delivery of health care, and law enforcement.^[xxix]

Beyond economics are the countless advantages that bi- and multilingual individuals enjoy by being able to communicate with a much wider range of people from many different linguistic and cultural backgrounds. Knowledge of other languages enriches travel experiences and allows people to experience other societies and cultures more meaningfully. Besides access to foreign media, literature, and the arts, bi- and multilingual people can simply connect and converse more freely. Becoming bilingual leads to new ways of conceptualizing yourself and others. It expands your worldview, so that you not only know more, you know *differently*.

Challenges Faced by Language Immersion

Designing, implementing, and providing ongoing support for language immersion education is no easy task. Pressing challenges include staffing, curriculum development and program articulation. Program administrators struggle to find high-quality, licensed teachers who can demonstrate advanced levels of oral and written proficiency in the chosen language. Once teachers are hired, the search begins for developmentally appropriate curriculum, materials, and resources that meet local district and state standards. Elementary-level challenges are met with additional secondary-level issues such as scheduling and balancing students' educational priorities as the program moves up and through the middle and high school years.

Inadequate teacher preparation for immersion programs remains a challenge in this field. Teachers need specialized professional development support to meet the complex task of concurrently addressing content, language, and literacy development in an integrated, subject-matter-driven language program.^[xxx] However, teacher educators and immersion specialists who can provide useful and relevant professional learning experiences for the immersion staff are in short supply. In addition to professional development related to curriculum design and pedagogical techniques, both native and non-native teachers report the need for ongoing support for their own proficiency in the immersion language.^[xxxi]

Chinese teachers whose educational experiences took place in more traditional, teacher-centered classrooms are aware of significant cultural differences and participant expectations. For example, US schools place a strong emphasis on social skills and language for communicative purposes. Children expect learner-centered activities with real-life tasks. Chinese teachers often hold a different set of expectations for students and thus, they frequently need support for classroom management strategies and techniques. [\[xxxii\]](#)

Immersion teachers face significant hurdles in the sheer range of learner differences. The impact of students' variations in language proficiency, literacy development, learning support available to the student in the home, achievement abilities, learning styles, and special needs grows exponentially when teaching and learning occurs in two languages. [\[xxxiii\]](#)

Educators and parents struggle to identify and implement research-based policies and practices for learners who have language, literacy, and learning difficulties. Many immersion programs lack the necessary resources and bilingual specialists to provide appropriate instructional support, assessment, and interventions. [\[xxxiv\]](#)

Promoting student understanding of more abstract and complex concepts becomes increasingly difficult in the upper elementary grades and beyond. Some upper-elementary immersion teachers, in particular those who teach in partial or 50:50 programs, report difficulties in teaching advanced-level subject matter because students' cognitive development is at a higher level than their proficiency in the second language. [\[xxxv\]](#) This challenge becomes more pronounced in programs where the immersion language is character-based, since literacy development is more time-consuming and demanding. [\[xxxvi\]](#)

One of the greatest challenges for immersion teachers is to keep their students using the second language, especially when working and talking amongst themselves. This challenge is particularly pronounced once the children have moved beyond the primary grades. For instance, studies in both one-way and two-way immersion classes point to fifth-grade students using English more frequently than their non-English language. [\[xxxvii\]](#) Facilitating student use of the immersion language in ways that promote ongoing language development is an uphill battle for teachers. [\[xxxviii\]](#)

Finally, outcome-oriented research reveals that immersion students, especially those who begin the program as native English speakers, don't quite achieve native-like levels of speaking and writing skills. Studies consistently find that English-speaking immersion students' oral language lacks grammatical accuracy, lexical specificity, native pronunciation, and is less complex and sociolinguistically appropriate when compared with the language native speakers of the second language produce. [\[xxxix\]](#) Further, students' use of the immersion language appears to become increasingly anglicized over time, [\[xl\]](#) and can be marked by a more formal academic discourse style. [\[xli\]](#) Even in high-performing immersion programs, advancing students' second language proficiency beyond the intermediate levels remains a much sought after end goal.

[\[i\]](#) [Genesee, 2008](#); [Lindholm-Leary, 2001, 2011](#); [Turnbull, Lapkin, & Hart, 2001](#)

[\[ii\]](#) [Bruck, Tucker, & Jakimik, 1975](#); [Caldas & Boudreaux, 1999](#); [Holobow, Genesee, & Lambert, 1991](#); [Krueger, 2001](#); [Lindholm-Leary, 2001](#); [Slaughter, 1997](#)

- [iii] [Bruck, 1982](#); [Genesee, 2007](#); [Myers, 2009](#)
- [iv] [Lindholm-Leary, 2011](#); [Patterson, Hakam, & Bacon, 2011](#)
- [v] [Swain & Barik, 1976](#)
- [vi] [Christian, 2011](#); [Lindholm-Leary & Genesee, 2010](#); [Lindholm-Leary & Hernandez, 2011](#); [Myers, 2009](#); [Thomas & Collier, 1997, 2002](#)
- [vii] [Fry, 2010](#); [Passel & Cohn, 2008](#)
- [viii] [2011](#)
- [ix] [Campbell, Gray, Rhodes, & Snow, 1985](#); [Curtain & Dahlberg, 2010](#); [Forrest, 2007, 2011](#); [Lindholm Leary & Howard, 2008](#)
- [x] [Genesee, 1987, 2004](#)
- [xi] [Genesee, 1987](#); [Lindholm Leary, 2001](#); [Turnbull, Lapkin, & Hart, 2001](#)
- [xii] [Bournot-Trites & Denizot, 2005](#); [Harley, Hart & Lapkin, 1986](#)
- [xiii] [Erdos, Genesee, Savage & Haigh, 2010](#); [Genesee & Jared, 2008](#)
- [xiv] [Gottardo, Yan, Siegel, & Wade-Woolley, 2001](#); [Wang, Perfetti, & Liu, 2005](#)
- [xv] [Leong, Tan, Cheng, & Hau, 2005](#)
- [xvi] [2008](#)
- [xvii] [Lindholm-Leary, 2011](#); [Lindholm-Leary & Howard, 2008](#)
- [xviii] [2004](#)
- [xix] [Howard, Sugarman, & Christian, 2003](#); [Kovelman, Baker, & Petitto, 2008](#); [Lindholm-Leary & Genesee, 2010](#); [Lindholm-Leary & Howard, 2008](#); [Ramirez, Perez, Valdez, & Hall, 2009](#); [Rolstad, 1997](#)
- [xx] [Bialystok, 2001](#); [Cenoz & Genesee, 1998](#); [Hakuta, 1986](#); [Education, Audiovisual and Culture Executive Agency, 2009](#); [Peal & Lambert, 1962](#)
- [xxi] [Bialystok, 2009](#)
- [xxii] [Lazaruk, 2007](#)
- [xxiii] [Cenoz & Valencia, 1994](#); [Sanz, 2000](#)
- [xxiv] [Bruck, et al., 1975](#)
- [xxv] [Bamford & Mizokawa, 1991](#)
- [xxvi] [1981](#)

[xxvii] [2001, page 228](#)

[xxviii] [Fixman, 1990](#); [García & Otheguy, 1994](#); [Halliwell, 1999](#); [Mann, Brassell, & Bevan, 2011](#)

[xxix] [Jackson & Malone, 2009](#)

[xxx] [Fortune, Tedick & Walker, 2008](#); [Howard & Loeb, 1998](#); [Kong, 2009](#); [Met & Lorenz, 1997](#); [Snow, 1990](#); [Walker & Tedick, 2000](#)

[xxxi] [Calderón & Minaya-Rowe, 2003](#); [Fortune, Tedick & Walker, 2008](#)

[xxxii] [Hall Haley & Ferro, 2011](#)

[xxxiii] [Walker & Tedick, 2000](#)

[xxxiv] [Genesee, 2007](#); [Fortune, with Menke, 2010](#)

[xxxv] [Met & Lorenz, 1997](#)

[xxxvi] [Met, 2002](#)

[xxxvii] [Carrigo, 2000](#); [Fortune, 2001](#); [Potowski, 2004](#)

[xxxviii] [Lavan, 2001](#)

[xxxix] [Harley, 1986](#); [Menke, 2010](#); [Mougeon, Nadaski & Rehner, 2010](#); [Pawley, 1985](#); [Salamone, 1992](#); [Spilka, 1976](#)

[xl] [Lyster, 1987](#)

[xli] [Fortune, 2001](#); [Potowski, 2004](#); [Tarone and Swain, 1995](#)

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